

REMARKS

The claims have been amended to correct obvious, inadvertent errors.

In claim 4, the limitation of “Hall flow rate of less than 25 sec/ 50 g of mixture,” is not supported in the text of the specification which states “Hall flow rate of at least 25 sec/ 50 g of mixture,” (see specif., pg 7, lines 9 – 10). Note that this was correctly stated in claim 1.

Also in claim 4, the limitation read “the ratio of lubricant/fibers being in the range from 1: 2 to 10 : 1.” when it more specifically should have stated “the weight ratio of lubricant/fibers being in the range from 1: 2 to 10 : 1.” Note that this was correctly stated in claim 7.

The rejection of claims 1 - 7 under 35 U.S.C. 102(b) as being anticipated by Jones et al in “The Effect of Microcrystalline Cellulose on the Mixing and Compaction Response of Ferrous Powders” is respectfully traversed.

The basis for the rejection is that “The reference *anticipates* the claimed invention in that it discloses a powder metal composition comprising ferrous metal powder and a lubricant/binder mixture consisting of 0.5% zinc stearate as lubricant and 0.5% Avicel PH-105 and, wherein the Avicel PH-105 is a *microcrystalline cellulose* of elongated particle with diameter of \approx (equivalent to about) 5 μm and a length \approx (equivalent to about) 30 μm , see sections 3.1 and 3.3.4. Note that the total amount of the lubricant/binder mixture is 1% and the ratio of lubricant to binder is 1:1.” (*emphasis supplied*).

Claim 1 specifies cellulose fibers. Fibers are not “microcrystalline cellulose.” Jones et al clearly spell that out. They tell us how the microcrystalline cellulose is *derived from cellulose fibers*. Moreover, to make sure the reader understands that their material is not cellulose, they make sure they tell the reader. They explain just how acid hydrolysis of the cellulose fibers converts the fibers to crystalline cellulose.

The following is the description of the microcrystalline cellulose disclosed and used by Jones et al. (reproduced from the cited published article):

“2.2 Production and properties of microcrystalline cellulose

Microcrystalline cellulose (MCC) (Table 1) is not a chemical derivative; it is purified, *depolymerized α -cellulose derived from fibrous plants*. During the manufacturing process, *cellulose is chemically cleaved*, at the 1,4- β -glycosidic linkages, into shorter fragments. This chemical degradation can be accomplished by several processes such as thermal, oxidative, enzymatic and acid hydrolysis. It is *this latter method of acid hydrolysis which is employed in the manufacture of MCC*.

Cellulose, a high polymer of glucose, is composed of crystalline (highly ordered) and amorphous (low ordered) regions. During hydrolysis, acid penetrates the less organized or amorphous areas of the fiber at a rate greater than into the crystalline areas. These low ordered regions are cleaved to sugars or short chain polymers which are soluble and thus removed, leaving only the highly ordered crystalline regions of the fiber. The resulting fiber is clearly weakened and brittle and in the dry state is more readily reduced to a powder, while in the wet state it may be reduced to a fine colloidal particle size. The individual microcrystal is a rod-shaped particle having dimensions of 1500 Å X 150 Å X 100 Å. The X-ray diffraction pattern of the microcrystalline agglomerates shows distinct lines which are indicative of a high degree of order within the polymer fragment.” (*emphasis supplied*).

The statute 35 U.S.C. §102 calls for identical disclosure or description between the subject matter sought to be patented and the prior art. Reliance upon 35 U.S.C. §102 for a rejection calls for *identical disclosure or description between the subject matter sought to be patented and the prior art*. The Jones et al reference itself tells us that their material is derived from cellulose fibers, therefore is not the same as cellulose fibers.

Courts have found identity when a single prior art reference clearly and unequivocally discloses the claimed compound without any need for picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference. (See *In re Arkley et al*, 172 USPQ 524, 525-6 CCPA 1972).

The strictness of this test was emphasized in *Connel v. Sears, Roebuck & Co.*, 722

F.2d 1542, 220 USPQ 193 (1983) reversing the lower court when the CAFC held "Anticipation requires the presence in a single prior art disclosure, of all elements of a claimed invention arranged as in the claim." citing *Soundsciber Corp. v. U.S.*, 360 F.2d 954, 960 148 USPQ 298,302 (Ct. Cl. 1966).

More recently, the Federal Circuit in *Dayco Products v. Total Containment Inc.*, 329F.3d 1358, 66 USPQ2d 1801, 1809 (Fed. Cir. 2003) repeated: "As this Court has stated, "the dispositive question regarding anticipation is whether *one skilled in the art* would reasonably understand or infer from the [prior art reference's] teaching" that every claim element was disclosed in that single reference." citing *In re Baxter Travenol Labs.*, 952 F.2d 388, 390, 21 USPQ2d 1281, 1284 (Fed. Cir. 1991) (emphasis in the original); *see also Schumer u Lab. Computer Sys., Inc.*, 308 F3d 1304, 1315, 64 USPQ2d 1832, 1841 (Fed. Cir. 2002). Thereafter the Court stated: "To serve as an anticipation when the reference is silent about the asserted inherent characteristic, such gap in the reference may be filled with recourse to extrinsic evidence; however, such evidence *must make clear that the missing descriptive matter is necessarily present in the thing described in the reference.*" *Cont'l Can Co. USA v. Monsanto Co.*, 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991) (emphasis added).

Since the Jones et al reference itself clearly differentiates microcrystalline cellulose from cellulose fibers, it is clear that the article cannot be an anticipatory reference under 35 U.S.C. 102.

The office action appears to consider the fragmented cellulose fibers equivalent to microcrystalline cellulose. If so, the only basis for doing so is that the length of the crystals is in the same range as the length of the fibers. The specification is quite clear that the length of the fibers is not the overriding property which allows the fragmented fibers to function in a powder metal part. Since the clear purpose of the fibers is to modify the physical porperties of the mixture to be fed to a molding die, and those of

the compacted powder metal part, not considering essential properties such as the apparent density of the powder, the ejection pressure required to eject the part from the die, and the transverse rupture strength of the ejected part, is not reasonable.

The office action has provided no reason to find that one skilled in the art would know that there exists a one-to-one correspondence in the effect of cellulose fibers and microcrystalline cellulose, despite the reference itself clearly stating that they are different materials.

For equivalence under the mandate of 35 U.S.C. §102 the accused device is to be compared to the claim, not as a whole, but on an element by element basis; and, if a single element of the claim or a function of such an element is missing from the accused device, there can be no equivalence. That is, the standard is the same for literal infringement.

Pennwalt v. Durand-Wayland and Spectra Corp v. Lutz and also, *ZMI Corp v. Cardiac Resuscitator*.

If, indeed the Jones et al reference were anticipatory, the powder metal mixture disclosed therein (had it been claimed) would be infringed by the powder metal mixture claimed herein.

The test can be applied as did the *U.S. Supreme Court in Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605 (1950), as follows:

"Analysis of literal infringement is a two-step process. The first step is to determine the scope of the claims (that is, interpret the language of the claim). In the construction of patent claims, it is fundamental that claims are to be construed in light of the specification and both are to be read with a view to ascertaining the invention. The second step is to determine whether the properly interpreted claims encompass the accused structure or process.

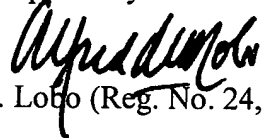
In determining whether an accused device or composition infringes a valid patent, resort must be had in the first instance to the words of the claim. If the accused matter falls squarely within a claim, infringement is made out and that is the end of it."

It is evident from this test that the reference cannot anticipate the claimed invention. The rejection for anticipation does not meet the requirements for a rejection under 35

U.S.C. 102.

In view of the foregoing remarks, arguments, and amendments to the specification and the claims, it is respectfully submitted that the basis for the rejections have been overcome and that the claims are in condition for allowance.

Respectfully submitted,


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/powdermetal/prosec/firstamdt